

(iv) Such other materials the Administrator deems appropriate.

(3) No later than November 15, 2017, the Administrator shall issue a draft Technical Assessment Report addressing issues relevant to the standards for the 2022 through 2025 model years.

(4) The Administrator will set forth in detail the bases for the determination required by this paragraph (h), including the Administrator's assessment of each of the factors listed in paragraph (h)(1) of this section.

[75 FR 25686, May 7, 2010, as amended at 76 FR 19874, Apr. 8, 2011; 76 FR 39521, July 6, 2011; 76 FR 57377, Sept. 15, 2011; 77 FR 63156, Oct. 15, 2012; 79 FR 23725, Apr. 28, 2014]

§ 86.1819 [Reserved]

§ 86.1820-01 Durability group determination.

This section applies to the grouping of vehicles into durability groups. Manufacturers shall divide their product line into durability groups based on the following criteria:

(a) The vehicles covered by a certification application shall be divided into groups of vehicles which are expected to have similar emission deterioration and emission component durability characteristics throughout their useful life. Manufacturers shall use good engineering judgment in dividing their vehicles into durability groups. Such groups of vehicles are defined as durability groups.

(b) To be included in the same durability group, vehicles must be identical in all the respects listed in paragraphs (b)(1) through (7) of this section:

(1) Combustion cycle (e.g., two stroke, four stroke, Otto cycle, diesel cycle).

(2) Engine type (e.g., piston, rotary, turbine, air cooled versus water cooled).

(3) Fuel used (e.g., gasoline, diesel, methanol, ethanol, CNG, LPG, flexible fuels).

(4) Basic fuel metering system (e.g., throttle body injection, port injection (including central port injection), carburetor, CNG mixer unit).

(5) Catalyst construction (for example, beads or monolith).

(6) Precious metal composition of the catalyst by the type of principal active

material(s) used (e.g., platinum based oxidation catalyst, palladium based oxidation catalyst, platinum and rhodium three-way catalyst, palladium and rhodium three way catalyst, platinum and palladium and rhodium three way catalyst).

(7) The manufacturer must choose one of the following two criteria:

(i) Grouping statistic:

(A) Vehicles are grouped based upon the value of the grouping statistic determined using the following equation:

$$GS = [(Cat\ Vol)/(Disp)] \times Loading\ Rate$$

Where:

GS = Grouping Statistic used to evaluate the range of precious metal loading rates and relative sizing of the catalysts compared to the engine displacement that are allowable within a durability group. The grouping statistic shall be rounded to a tenth of a gram/liter, in accordance with the Rounding-Off Method specified in ASTM E29-93a, Standard Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications (incorporated by reference, see § 86.1).

Cat Vol = Total volume of the catalyst(s) in liters.

Disp = Displacement of the engine in liters.

Loading rate = The mass of total precious metal(s) in the catalyst (or the total mass of all precious metal(s) of all the catalysts if the vehicle is equipped with multiple catalysts) in grams divided by the total volume of the catalyst(s) in liters.

(B) Engine-emission control system combinations which have a grouping statistic which is either less than 25 percent of the largest grouping statistic value, or less than 0.2 g/liter (whichever allows the greater coverage of the durability group) shall be grouped into the same durability group.

(ii) The manufacturer may elect to use another procedure which results in at least as many durability groups as required using criteria in paragraph (b)(7)(i) of this section providing that only vehicles with similar emission deterioration or durability are combined into a single durability group.

(c) Where vehicles are of a type which cannot be divided into durability groups based on the criteria listed above (such as non-catalyst control system approaches), the Administrator